



Service Bulletin

INFORMATION

Subject: TOP TIER Detergent Gasoline Information and Available Brands

Models: 2016 and Prior GM Passenger Cars and Trucks
United States, Canada and Puerto Rico

Attention: Gasolines that have met the TOP TIER Detergent Standards will appear on the list of TOP TIER Gasoline brands at this website under the *Retailers* tab: www.toptiergas.com

This Bulletin has been revised to add the 2016 Model Year and update the list of TOP TIER Gasoline Retailers. Please discard Corporate Bulletin Number 05-06-04-022L.

TOP TIER Detergent Gasoline — General Motors Recommendation



A class of fuel called TOP TIER Detergent Gasoline is appearing at retail stations of various fuel marketers in the United States, Canada and Puerto Rico. This gasoline meets the detergent standards developed by seven automotive companies. All vehicles will benefit from using TOP TIER Detergent Gasoline over gasoline containing the “Lowest Additive Concentration” (LAC). LAC is also known as the minimum detergent treat rate, recommended by the Environmental Protection Agency (EPA) in the United States and in Canada, the Canadian General Standards Board (CGSB). Those vehicles that have experienced engine deposit related concerns may especially benefit from using TOP TIER Detergent Gasoline.

GM strongly recommends the use of TOP TIER Detergent Gasoline. TOP TIER Detergent Gasoline is guaranteed not to contain harmful organometallic additives, which are sometimes used to raise a fuel's octane rating and could harm the vehicle's emission system.

The EPA and CGSB require only a minimum amount of detergent in gasoline. This minimum amount is not adequate to keep the engine running at optimal conditions for the life of the vehicle. TOP TIER Detergent gasoline contains 2–3 times more detergent than the EPA and CGSB minimum requirement, resulting in a lower amount of intake valve deposits (IVD). These IVD's can negatively affect fuel economy, emissions, and performance.

General Motors, BMW, Honda, Toyota, Volkswagen, Audi and Mercedes-Benz developed the TOP TIER Detergent Gasoline Standards and support the use of TOP TIER Detergent Gasoline by recommending it in their vehicle Owner Manuals. All seven corporations recognize the benefits to the vehicle, the environment, and the consumer. Additionally, the companies recognize that by joining together they can better address the industry concern with low fuel detergent levels and the intentional addition of metallic additives.

This is a voluntary program for fuel marketers and not all fuel marketers will offer TOP TIER Detergent gasoline. When fuel marketers make public announcements regarding that their gasolines have met the TOP TIER Detergent Standards, they will appear on the list of brands under the **Retailers** tab at the Home website of www.toptiergas.com

A Cleaner Engine Has Environmental and Vehicle Performance Advantages

The following engine intake valve graphics show the difference between an engine that did not use TOP TIER Detergent gasoline and an engine that did at 10,000 mi (16,093 km).



Engine intake valve using Non-TOP TIER Detergent gasoline having the minimum detergent treat rate with more than 1,000 mg of deposits.

Deposits (1) on the intake valve reduce fuel economy by creating a porous surface that collects wet fuel, thereby affecting the air to fuel mixture in the cylinder and releases fuel late in the combustion cycle leading to increased unburnt hydrocarbon (HC) and carbon monoxide (CO) emissions (2). Likewise fuel injectors may become restricted with carbon deposits over time resulting in an incorrect injector spray pattern and similarly increasing HC and CO emissions.



Engine intake valve using TOP TIER Detergent gasoline having a high detergent treat rate with less than 50 mg deposits.

As can be seen, this intake valve is significantly cleaner resulting in optimal fuel economy and driveability performance as well as reduced emissions.

TOP TIER Gasoline Retailers — United States, Canada and Puerto Rico

Additional gasoline retailers are added to the TOP TIER list when their gasolines meet the TOP TIER Detergent Gasoline Standards. For the most up to date list of fuel marketers that offer TOP TIER Detergent Gasoline, refer to this website: www.toptiergas.com

The following list is the most current list of the latest gasoline brands that meet the TOP TIER Detergent Gasoline Standards in **all octane grades**, in the United States, Canada and Puerto Rico.

TOP TIER Gasoline Retailers:

<u>USA</u>	<u>Canada</u>	<u>Puerto Rico</u>
76 Stations	Chevron Canada	Puma Energy Caribe, LLC
Aloha Petroleum	CO-OP	Shell
ARCO	Esso	
Beacon	Petro-Canada	
BP	Shell Canada	
Chevron	Tempo	
Conoco	Costco Wholesale	
Costco Wholesale		
CountryMark		
Diamond Shamrock		
Entec Stations		
Express Convenience Centers		
Exxon		
Hawaii Fueling Network (HFN)		
Holiday Stationstores		
Kwik Trip / Kwik Star		
MFA Oil Co.		
Mobil		
Ohana Fuels		
Phillips 66		
Quik Trip		
Road Ranger		
Shamrock		
Shell		
Sinclair		
Suncor Energy Inc		
SuperAmerica		
Texaco		
Tri-Par Oil Co.		
Valero		

GM bulletins are intended for use by professional technicians, NOT a "do-it-yourselfer". They are written to inform these technicians of conditions that may occur on some vehicles, or to provide information that could assist in the proper service of a vehicle. Properly trained technicians have the equipment, tools, safety instructions, and know-how to do a job properly and safely. If a condition is described, DO NOT assume that the bulletin applies to your vehicle, or that your vehicle will have that condition. See your GM dealer for information on whether your vehicle may benefit from the information.



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